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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DAVIDSON, DAN

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/077,782	Applicant(s) SATO, NAOKI	
	Examiner Dan I Davidson	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 14-21 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 3-7,11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1, 3, 10-11, and 13 are objected to because of the following informalities:
 - (1) In claim 1, line 4, and in claim 10, line 2, the use of the word "may" is unclear.
 - (2) In claims 3 and 11, "positioning of feed-forward of the head" is unclear. This should be replaced with --feed-forward positioning of the head--.
 - (3) In claim 13, the word "can" is unclear and should be removed.
 - (4) Claim 13 has several informalities including "calculator change time difference".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Takaishi (US 2001/0013984 A1).

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Re claims 1, 8, and 10; Takaishi discloses a servo detection control system (Fig. 2) comprising: a head change learning means (Fig. 2, 11, 25; paragraphs 59-64) comprising: a means for measuring a servo sector interval occurring at the time of head change (paragraph 60); a means for calculating head-change time difference from a value measured by the servo sector interval measuring means (paragraph 61); and a means for storing a result of calculation by the calculating means (paragraph 63, lines 1-3); and a means for compensating start timing of servo detection after head change using a stored value of the storing means (paragraph 63, lines 5-7). Takaishi is applying a continuous search mode during learning operation of the learning means since he is applying a usual servo detection mode in an abnormal situation (see definition of continuous search mode in specification, page 15, lines 17-22).

Re claim 9; Takaishi discloses applying the continuous search mode during compensation and control operation of the means for compensating start timing (compensating start timing (paragraph 65) is the result of method of paragraphs 59-63).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi (US 2001/0013984 A1) as applied to claim 1 above, and further in view of Hull et al (US 6,067,206 A).

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Takaishi discloses the limitations at claim 1 as discussed above. He does not disclose the limitations at claim 2.

Hull et al (US 6,067,206 A) teach as prior art a means for measuring the amount of head skew in a disk radius direction (col. 2, line 66: radial offsets) using a writing signal in a servo sector (col. 3, line 1: servo samples) after the head change (col. 3, line 5). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to correct for head skew after a head change in Takaishi; motivation being achieving accurate track positioning without having to use storage memory.

Allowable Subject Matter

7. Claims 12-21 are allowed over the prior art of record.

Re claim 12; the prior art of record, and in particular Takaishi (US 2001/0013984 A1), fails to teach or suggest measuring the amount of servo sector skew using a servo sector address after the head change; and compensating and controlling the servo sector address using the amount of servo sector skew and the time difference.

Re claim 13; the prior art of record, and in particular Takaishi (US 2001/0013984 A1), fails to teach or suggest judging whether or not to adopt the result of the learning by the controller using the output of the sensor.

8. Claims 3-7 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Re claim 3; the prior art of record, and in particular Takaishi (US 2001/0013984 A1), fails to teach or suggest a means for storing the amount of head skew; and a means for controlling the feed-forward positioning of the head using the amount of head skew.

Re claim 5; the prior art of record, and in particular Takaishi (US 2001/0013984 A1), fails to teach or suggest measuring the amount of servo sector skew using a servo sector address after the head change.

Re claim 11; the prior art of record, and in particular Takaishi (US 2001/0013984 A1), fails to teach or suggest feed-forward positioning of a head using the amount of head skew and the time difference.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kitazaki et al (US 6,515,813 B2) teach detecting servo information even when a time interval between servo sectors is changed due to disk shifting.

Hasegawa et al (US 6,128,153 A) teach measuring head skew (eccentricity) in a disk drive system prior to a head switch.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan I Davidson whose telephone number is (703) 308-8535. The examiner can normally be reached on Mondays, Tuesdays, and Thursdays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran, can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DID

Dan I Davidson
September 29, 2004



SINH TRAN
PRIMARY EXAMINER